

REMARKS

By this amendment, Applicants have amended the claims to further define their invention. In particular, claim 9 has been amended to be independent form by including therein all of the limitations of claim 1, from which claim 9 previously depended. Claims 9 and 12 have also been amended to eliminate the antecedent basis problems noted by the Examiner in numbered sections 4 and 6 of the Office Action. Claim 11 has been amended to be in independent form by including therein all of the limitations of claim 1, from which claim 11 previously depended. Claims 2 and 10 have been amended to depend from claim 11. Claim 1 has been canceled without prejudice or disclaimer and new claims 14-23 added to further define the invention.

In view of the foregoing amendments to claims 9 and 12, it is submitted these claims now comply with the requirements of 35 U.S.C. 112, second paragraph. Accordingly, reconsideration and withdrawal of the rejection of claims 9 and 12 under 35 U.S.C. 112, second paragraph, are requested.

In view of the cancellation of claim 1 and the amendment to the dependency of claim 2, it is submitted the rejection of claims 1 and 2 under 35 U.S.C. 102(b) in numbered section 8 of the Office Action is moot.

Claim 9 stands rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 40153 to Billings in view of U.S. Patent No. 4,301,733 to Blanco. Applicants traverse this rejection and request reconsideration thereof, at least insofar as it applies to amended claim 9.

The present invention relates to a shotgun-barrel projectile. As shown by way of example only in Figure 1, the shotgun-barrel projectile 20 includes a projectile 1 and an intercalation 2 for fitting into a cartridge 20. The projectile 1 exhibits a cylindrical free space 10 on its underside, and the intercalation 2 takes the form of a plunger 21 at its end facing towards the projectile 1, a radially outer surface of the plunger 21 having a diameter adapted to a radially inner surface of the free space 10. The projectile 1 and the plunger 21 are mounted so that before firing the plunger 21 is not wedged in the free space 10. See, e.g., Figure 1. In the course of firing, however, the plunger 21 is pushed into the free space 10 and wedged in the free space so that the radially outer surface of the plunger abuts the radially inner surface of the free space. See, e.g., Figures 2 and 3. As set forth in claim 9, the nose of the projectile merges via a bevel 3 with an adjoining shoulder 4 running parallel to the axis of symmetry 22, and the adjoining shoulder 4 running parallel to the axis of symmetry 22 merges with a plane face 5 running perpendicular to the axis of symmetry 22 and extending as far as the outer periphery of the projectile 1.

The Billings patent discloses a projectile, the main portion of which is hollow with a fixed pin or stem in the center, leaving a thin shell of metal for the sides of the ball. A plug or pin with a double-flanged ring is provided on the rear end of the ball. The projectile is designed so that, when the ball is fired, its diameter increases so as to fill to the grooves of the gun. Since it is designed to fill of the grooves of the gun, it is clearly not designed for fitting into a cartridge as is the projectile and intercalation of the shotgun-barrel

projectile of the present invention. Thus, the shotgun-barrel projectile of the present invention and the projectile of Billings are designed for different purposes.

As recognized by the Examiner, the nose of the projectile of the present invention has a different structure than that described and shown in Billings.

While the Examiner has cited the Blanco patent for having a projectile having a plane face running perpendicular to the axis of symmetry, it is noted that claim 9 requires that the nose of the projectile merge via a bevel with an adjoining shoulder running parallel to the axis of symmetry and that this adjoining shoulder running parallel to the axis of symmetry merge with a plane face running perpendicular to the axis of symmetry. Such a shape is not disclosed in either Billings or Blanco.

Accordingly, claim 9 is patentable over the proposed combination of patents, at least for these reasons.

Claims 10, 11 and 13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Billings. Applicants traverse this rejection, at least insofar as it applies to the presently amended claims 10, 11 and 13.

Amended claims 10, 11 and 13 are directed to a cartridge comprising a cartridge case, a propelling charge provided in the cartridge case, and a shotgun-barrel projectile mounted on the propelling charge.

As noted above, the Billings patent discloses a projectile designed so that, when fired, the ball increases in diameter so as to fill of the grooves of the gun. Accordingly, it is submitted the Billings patent teaches away from

providing such a projectile in a cartridge. Therefore, claims 10, 11 and 13 are patentable over Billings.

Claim 12 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Billings in view of U.S. Patent No. 4,587,905 to Maki. Applicants traverse this rejection and request reconsideration thereof, at least insofar as it applies to the claims presently in the application.

As noted above, the Billings patent teaches away from providing the projectile disclosed therein in a cartridge since it is designed so that, when fired, the diameter of the ball is increased to fill the grooves of the gun. Therefore, it is submitted there would have been no motivation to provide the projectile of Billings in a cartridge, such as the cartridge is described in Maki. Accordingly, claim 12 is patentable over the proposed combination of patents.

Applicants note the indication that claims 3 and 4 would be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. 112, second paragraph. However, since claims 3 and 4 were not rejected under 35 U.S.C. 112, second paragraph, it is submitted these claims should be allowed.

Likewise, Applicants note the indication that claims 5-8 would be allowable if rewritten to overcome the rejection under 35 U.S.C. 112, second paragraph, and to include all of the limitations of the base claim and any intervening claims. Since claims 5-8 were not rejected under 35 U.S.C. 112, second paragraph, and since these claims ultimately depend from claim 4, which should be allowable, claims 5-8 should also be allowed.

In view of the foregoing amendments and remarks, favorable reconsideration and allowance of all of the claims now in the application are

requested.

Please charge any shortage in the fees due in connection with the filing of this paper, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 306.46102X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

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